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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/367,496	11/24/1999	MICHELE AGUERA	P06473USO/TP	4418

881 7590 04/06/2005

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EXAMINER	
RAWLINGS, STEPHEN L	
ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/367,496	AGUERA ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6,7,9,10,14,15,20-22,24,25,29,30 and 33-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4* is/are allowed.

6)☒ Claim(s) *1,3,6,7,9,10,14,15,20-22,24,25,29,30 and 33-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed February 22, 2005 is acknowledged and has been entered. Claims 27, 31, and 32 have been canceled. Claims 7, 9, 10, 14, 15, 20-22, 24, 25, 29, 30, and 33-35 have been amended.

2. Claims 1, 3, 4, 6, 7, 9, 10, 14, 15, 20-22, 24, 25, 29, 30, and 33-35 are pending in the application and are currently under prosecution.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The following Office action contains NEW GROUNDS of objection.

Grounds of Objection and Rejection Withdrawn

5. Unless specifically reiterated below, Applicant's amendment has obviated or rendered moot the grounds of objection and rejection set forth in the previous Office action mailed November 22, 2004.

Grounds of Objection and Rejection Maintained

Specification

6. The objection to the specification, because the use of improperly demarcated trademarks in the specification, is maintained.

An additional example of an improperly demarcated trademark is found at page 6, line 31 (i.e., Superose™).

Again, appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Rejections - 35 USC § 112

7. The rejection of claims 9, 14, 15, 20-22, 24, 25, 29, and 33-35 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for making and using the polypeptide of SEQ ID NO: 8 or a fragment of the polypeptide of SEQ ID NO: 8 that binds anti-CV2 antibodies, or a kit comprising said polypeptide or fragment, to detect the presence of anti-CV2 antibodies in a biological sample taken from a subject and to thereby diagnose a paraneoplastic neurological syndrome selected from the group consisting of cerebellar ataxia, sensory motor neuropathy, uveitis and retinopathy, limbic encephalitis, myasthenia gravis, encephalopathy, frontal dementia, loss of vision, and Lambert-Eaton myasthenic syndrome, which is associated with the presence of a tumor selected from the group consisting of undifferentiated mediastinal carcinoma, malignant lymphoepithelial thymoma, small cell lung carcinoma, uterine sarcoma, and cervix uterus sarcoma in the subject, does not reasonably provide enablement for making and using the polypeptide of SEQ ID NO: 8 or a fragment of the polypeptide of SEQ ID NO: 8 that binds anti-CV2 antibodies, or a kit comprising said polypeptide or fragment, to detect the presence of anti-CV2 antibodies in a biological sample taken from a subject and to thereby diagnose any paraneoplastic neurological syndromes and/or any tumor, is maintained. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

This ground of rejection is set forth in section 18 of the previous Office action mailed November 22, 2004.

At pages 2 and 3 of the amendment filed February 22, 2005, Applicant has traversed this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

Upon careful consideration of the factors used to determine whether undue experimentation is required, in accordance with *Ex parte Forman,* 230 USPQ 546 (BPAI 1986), and in view of a preponderance of factual evidence of record, the amount of

guidance, direction, and exemplification disclosed in the specification would not be sufficient to enable the skilled artisan to use the claimed invention without undue experimentation.

Applicant has argued that the amendment to the claims has obviated the ground of rejection. The Examiner disagrees. As stated in the previous Office action, the claims are not limited to products and methods for diagnosing paraneoplastic neurological syndromes that are disclosed to be associated with the presence of anti-CV2 antibodies and therefore, because the skilled artisan cannot predict which paraneoplastic syndromes and/or tumors are associated with the presence of the antibodies, the claimed invention cannot be used without undue experimentation.

With regard to claims 33-35, Applicant has submitted that the rejection is inappropriate. Claims 33-35 are drawn to a diagnostic kit; as stated at page 15 (paragraph 3) of the previous Office action, the supporting disclosure provides guidance and direction for using such a kit to diagnose paraneoplastic neurological syndromes without any indication that the claimed invention can be used to diagnose any other type of disease or disorder. Therefore, contrary to Applicant's submission, given the disclosure of the claimed invention and its recited intended use, the rejection is appropriate. As such, it is suggested that Applicant remedy this particular issue by amending claim 33 to delete "diagnostic".

Furthermore, for additional clarity, claims 24 and 29 are drawn to a method comprising contacting a sample from a subject with a peptide capable of forming a specific immunological complex with an antibody that cross-reacts with, or which is also capable of binding the polypeptide of SEQ ID NO: 8. Accordingly, as noted in the previous Office action, the claims are directed to a genus of peptides that includes members that, although capable of binding anti-CV2 antibodies, differ structurally from the polypeptide of SEQ ID NO: 8. Moreover, these peptides are not necessarily fragments of the polypeptide of SEQ ID NO: 8. As noted in the previous Office action, the only the polypeptide of SEQ ID NO: 8 and fragments thereof that bind to anti-CV2 antibodies can be readily made and used without undue experimentation. Therefore, as

this issue has not been addressed in the amendment filed February 22, 2004, Applicant's reply to this Office action should address this issue.

8. The rejection of claim 14 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is maintained.

This ground of rejection is set forth in section 20 of the previous Office action mailed November 22, 2004.

At page 3 of the amendment filed February 22, 2005, Applicant has traversed this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

Claim 14 is indefinite because the claim recites the limitation, "the blood sample". The claim lacks an antecedent basis for the recitation of this limitation in line 8, because the term "blood" was deleted from preceding line 4.

Although Applicant has asserted that the amendment to claim 14 has obviated this issue, it has not.

Claim Rejections - 35 USC § 102

9. The rejection of claims 1, 9, 10, 14, 20, 21, 24, 25, and 29-32 under 35 U.S.C. 102(b) as being anticipated by Honnorat et al. (*J. Neurol. Neurosurg. Psych.* 1996; **61**: 270-278) (of record), as evidenced by Honnorat et al. (*Eur. J. Neurosci.* 1999 Dec; **11** (12): 4226-4232), is maintained.

This ground of rejection is set forth in section 21 of the previous Office action mailed November 22, 2004.

At pages 3 and 4 of the amendment filed February 22, 2005, Applicant has traversed this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

Applicant has argued that the prior art does not disclose a *purified* polypeptide. In reply, the prior art teaches a substantially "purified" protein; otherwise, it would not have been technically possible to determine its molecular weight. Moreover, the presence of a "band" of protein that binds anti-CV2 antibodies in the polyacrylamide gels used in the analysis of the immunoprecipitated proteins, which corresponds to the position in the gel of a polypeptide having the molecular weight of 66 kDa, ensures that the protein is purified from other proteins of differing molecular weights; see, e.g., page 277, Figure 9. Admittedly, Honnorat et al. (1996) does not teach that the protein has been purified to homogeneity, but the claims do not require the claimed polypeptide to be free of other proteins. The term "purified" is not expressly defined in the specification; given its plain and customary meaning, the broadest reasonable interpretation of the claims only require the protein to be removed or separated from some other material.

Applicant has remarked that Honnorat et al. (1996) has pointed out the need to further purify the protein. Again, the claims do not require the protein to be purified to any particular degree, or to be purified from any particular other material.

Applicant has submitted that it is improper to rely upon Honnorat et al (1999) as a evidentiary reference teaching an inherent characteristic of the polypeptide described by the prior art. In reply, Honnorat et al. (1996) teaches an isolated and purified polypeptide having a molecular weight of 66 kDa, but does not disclose the amino acid sequence of the protein.

MPEP § 2112 states:

> The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).
>
> There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, but only the subject matter is in fact inherent in the prior art reference. Schering Corp. v. Geneva Pharm. Inc., 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003).

MPEP § 2112 further states that the Examiner must provide rationale or evidence tending to show inherency:

> The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) [...]. "To establish inherency, the extrinsic evidence must make clear the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill [...] *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) [.]

Furthermore, MPEP 2131.01, which although specifically addressing the proper use of multiple references in 35 U.S.C. § 102 rejections, is worthy of note also, since it states:

> "To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such a gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that is would be so recognized by persons of ordinary skill." *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991) [....] Note that as long as there is evidence of record establishing inherency, failure of those skilled in the art to contemporaneously recognize an inherent property, function or ingredient of a prior art reference does not preclude a finding of anticipation. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1349, 51 USPQ2d 1943, 1948 (Fed. Cir. 1999) [....] [T]he critical date of extrinsic evidence showing a universal fact need not antedate the filing date. See MPEP § 2124.

MPEP § 2124 states the exception to the rule that the critical reference date must precede the filing date:

> In certain circumstances, references cited to show a universal fact need not be available as prior art before applicant's filing date. *In re Wilson*, 311 F.2d 266, 135 USPQ 442 (CCPA 1962). Such facts include characteristics and properties of a material or a scientific truism.

Thus, the MPEP makes clear that the inherent teaching of the prior art is a question of fact that arises in both 102 and 103 rejections. While there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, it is the Examiner's obligation to provide extrinsic evidence, which need not antedate the filing date of the application, showing the

missing descriptive matter is necessarily present in the thing described in the reference, and that is would be so recognized by persons of ordinary skill.

In this instance, the claims are directed to polypeptide comprising the amino acid sequence set forth as SEQ ID NO: 8. While Honnorat et al. (1996) does not teach the amino acid sequence of the isolated and purified 66 kDa polypeptide, the amino acid sequence of a protein is an inherent characteristic. Honnorat et al. (1999) provides factual evidence that the protein isolated by Honnorat et al. (1996) is the same as the protein that is described by Honnorat et al. (1999). Because the protein described by Honnorat et al. (1999) comprises an amino acid sequence that is identical to SEQ ID NO: 8, it would be recognized by persons of ordinary skill that the protein isolated by Honnorat et al. (1996) necessarily has the amino acid sequence set forth as SEQ ID NO: 8.

Thus, it is the Office's position that the express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. § 103. There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, but only the subject matter is in fact inherent in the prior art reference; and references cited to show a universal fact need not be available as prior art before Applicant's filing date.

Applicant has asserted that the prior art does not disclose a fixed section of brain tissue comprising cells that express the polypeptide of SEQ ID NO: 8. As noted in the rejection, Honnorat et al. teaches fixed tissue sections of both rat and human brain comprise a polypeptide that is recognized by anti-CV2 antibodies, which bind the 66 kDa polypeptide endogenous to human brain cells; see, e.g., page 276, Figures 6 and 7.

10. The rejection of claims 30-32 under 35 U.S.C. 102(b) as being anticipated by Antoine et al. (*J. Neurol. Sci.* 1993 Jul; **117** (1-2): 215-223) (of record), as evidenced by Honnorat et al. (*Eur. J. Neurosci.* 1999 Dec; **11** (12): 4226-4232), is maintained.

This ground of rejection is set forth in section 22 of the previous Office action mailed November 22, 2004.

Applicant has not traversed this ground of rejection.

Claim Rejections - 35 USC § 103

11. The rejection of claims 3, 6, 7, 15, 22, and 33-35 under 35 U.S.C. 103(a) as being unpatentable over Honnorat et al. (*J. Neurol. Neurosurg. Psych.* 1996; **61**: 270-278) (of record), as evidenced by Honnorat et al. (*Eur. J. Neurosci.* 1999 Dec; **11** (12): 4226-4232), in view of US Patent No. 6,455,267 B1, is maintained.

This ground of rejection is set forth in section 24 of the previous Office action mailed November 22, 2004.

At page 5 of the amendment filed February 22, 2005, Applicant has traversed this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

Applicant has submitted that the rejection provides no explanation as to how it would have been obvious to carry out the isolation of the polypeptide of SEQ ID NO: 8 and clone the cDNA encoding the polypeptide. As noted in the rejection, U.S. Patent No. 6,455,267 B1 teaches the recombinant production of proteins using host cells that comprise a nucleic acid molecule encoding the polypeptide. At page 277, column 2, Honnorat et al. discloses: "The availability of a recombinant protein, currently in progress, will probably improve the sensibility of western blots". Thus, there is motivation in the prior art to produce the purified 66 kDa polypeptide recombinantly and in the process to produce the claimed invention. The methodology necessary to do so was routine and conventional at the time of the invention, so the artisan of ordinary skill in the art would have had a reasonable expectation of success.

Furthermore, Applicant has asserted that it is ill-founded to suggest the obviousness of the claimed invention, since it can only be assumed that the polypeptide disclosed by the prior art is the polypeptide of SEQ ID NO: 8. The rejection states: "As evidenced by Honnorat et al. (1999), the 66 kDa polypeptide of Honnorat et al. (1996), which is endogenous to human brain cells, and to which anti-CV2 antibodies bind, is a polypeptide that comprises an amino acid sequence that is identical to SEQ ID NO: 8;

see entire document (e.g., the abstract; page 4230, Figure 5). It is therefore not an assumption that the polypeptide disclosed by the prior art is the polypeptide of SEQ ID NO: 8; rather, it is a fact, and as such, the obviousness of the claimed invention does not improperly rely upon mere presumption but upon certainty.

Applicant has submitted that there would have been no motivation to "achieve purification of the 66 kDa protein" (page 5, paragraph 1). As noted in the above response to Applicant's arguments traversing the rejection under 35 U.S.C. § 102, the prior art teaches a substantially "purified" protein. If that were not enough, again, Honnorat et al. discloses that the process of producing the protein using recombinant DNA methodology has already begun and provides a rational for doing so.

Applicant has argued that the rejection in inappropriate given the holding in the case *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993). In reply, MPEP § 2121 states: "[T]he inquiry as to whether a claimed inventions would have been obvious is "highly fact-specific by design". Accordingly, obviousness must be assessed on a case-by-case basis."

Moreover, "reliance on *per se* rules of obviousness is legally incorrect". See *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995). Accord *In re Brouwer*, 77 F.3d 422, 426, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996). Therefore, *Bell* should not be regarded as establishing *per se* rules of obviousness.

There is particular reason for not relying upon such decisions as provisions of as *per se* rules, such as: "[I]n view of the rapid advances of science, [...] what may be unpredictable at one time may become predictable at a later time". See *Enzo Biochem. Inc. v. Calgene Inc.*, 188 F.3d 1362, 1374 n. 10, 52 USPQ2d 1129, 1138 n. 10 (Fed. Cir. 1999).

Claim 4, which is specifically drawn to a nucleic acid molecule comprising the polynucleotide sequence of SEQ ID NO: 7, is not rejected as being obvious, since the precise cDNA molecule of claim 4 would not have been obvious over Honnorat et al. teaching an isolated polypeptide. As Applicant has correctly noted, the redundancy of the genetic code precludes contemplation of or focus on the specific cDNA molecules.

What cannot be contemplated or conceived cannot be obvious. See *In re Deuel*, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

However, to the contrary, a genus of nucleic acid molecules comprising a polynucleotide sequence encoding a polypeptide comprising SEQ ID NO: 1 *can be contemplated and conceived.*

"A claim to the genus of DNA molecules complementary to the RNA having the sequences encompassed by that formula, even if defined only in terms of the protein sequence that the DNA molecules encode, while containing a large number of species, is definite in scope and provides the public notice required of patent applicants." *In re Wallach*, 71 USPQ2d 1939, 1942, no. 1 (CA FC 2004).

Indeed, MPEP § 2163 states:

> Description of a representative number of species does not require the description to be of such specificity that it would provide individual support for each species that the genus embraces. For example, in the molecular biology arts, if an applicant disclosed an amino acid sequence, it would be unnecessary to provide an explicit disclosure of nucleic acid sequences that encoded the amino acid sequence. Since the genetic code is widely known, a disclosure of an amino acid sequence would provide sufficient information such that one would accept that an applicant was in possession of the full genus of nucleic acids encoding a given amino acid sequence, but not necessarily any particular species.

This appears precisely the basis of the decision made by the Federal Circuit in deciding *In re Deuel*, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995) ("The redundancy of the genetic code precluded contemplation of or focus on the **specific** cDNA molecules" [emphasis added]).

Consistently, in the instance, claim 4, drawn to a nucleic acid comprising a specific polynucleotide sequence encoding the amino acid sequence of the protein, is not rejected as being obvious over the prior art.

As noted above, Honnorat et al. teaches: "The availability of a recombinant protein, currently in progress, will probably improve the sensibility of western blots" (page 277, column 2). There can be no reasonable doubt that at the time the application was filed, one ordinarily skilled in the art would have been motivated to isolate a nucleic acid molecule encoding the isolated protein. Indeed, "the state of the art has developed such that the complete amino acid sequence of a protein may put

one in possession of the genus of DNA sequences encoding it". *In re Wallach*, 71 USPQ2d 1939, 1942, no. 1 (CA FC 2004). A rejection upon obviousness, where the prior art "contained detailed enabling methodology for practicing the claimed invention, and evidence suggesting that it would be successful" is appropriate. See *In re O'Farrell*, 853 F.2d 894, 903-904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Furthermore, there is nothing intrinsically wrong in the application of methodology in the rejection of product claims under 35 U.S.C. § 103(a) depending on the particular facts of the case, the manner and context in which methodology applies and the overall logic of the rejection. See *Ex parte Goldgaber*, 41 USPQ2d 1173, 1176 (BPAI 1996) ("We find nothing intrinsically wrong, however, in the application of methodology in rejecting product claims under 35 USC 103, depending on the particular facts of the case, the manner and context in which methodology applies, and the overall logic of the rejection. Nor do we read *Bell* or *Deuel* as issuing a blanket prohibition against the application of methodology in rejecting product claims defining DNA or cDNA. Furthermore, precedent indicates that it is perfectly acceptable to consider the method by which a compound is made in evaluating the obviousness of the compound").

Given the state of the art, and the level of skill in the art, the knowledge of the ordinarily skilled artisan, etc., there would have been at least a reasonable expectation of success in isolating a nucleic acid molecule encoding a polypeptide comprising SEQ ID NO: 8. See MPEP § 2143.02. See *O'Farrell*.

Similar decisions have been made by the Board of Patent Appeals and Interferences. See, e.g., *Ex Parte Movva*, 31 USPQ2d 1027 (BPAI 1993).

However, then and now, it appears that the artisan of ordinary skill in the art would not have a reasonable expectation of success in isolating *specific* nucleic acid molecules comprising particular nucleotide sequences, such as the nucleic acid molecules encompassed by claim 4. Thus, while claims 3, 6, and 7 are appropriately rejected as being obvious over Honnorat et al., claim 4 is not.

Also of relevance, it is noted that It is perfectly acceptable to consider the method by which a compound is made in evaluating the obviousness of the compound. In determining obviousness, it is appropriate to consider such matters as the manner of

preparation of the composition vis-a-vis the prior art, the structural similarities as well as differences between the claimed composition and that of the prior art and the presence or absence of properties which would unobvious in view of the prior art. See *In re Pilkington*, 411 F.2d 1345, 162 USPQ 145 (CCPA 1969); *In re Best*, 562, F.2d 1252, 195 USPQ 430 (CCPA 1977).

Furthermore, the Federal Circuit has recognized that a gene, being a chemical compound, could be defined "by its methods of preparation, its physical or chemical properties, or whatever characteristics sufficiently distinguished it (from other materials)." See *Amgen*, 927 F.2d 1200 at 1206, 18 USPQ2d at 1021 (Fed. Cir. 1991); *Fiers V. Sugano*, 984 F.2d 1164, 25 USPQ2d 1601 (Fed. Cir. 1993).

Finally, as noted in *In re Cofer*, 354 F.2d 664, 148 USPQ 268 (CCPA 1966), the particular structure or form of a chemical compound is an important consideration in determining obviousness under 35 USC 103; but it is not the only consideration. A compound may well be defined or described by characteristics other than its chemical structure. Although the artisan may be unaware of the exact chemical structure of a nucleic acid molecule encoding a protein of interest, he or she is aware that is it composed of established relatively unchanging array of nucleotides. Importantly, he or she is also aware that all or part of the amino acid sequence of an isolated protein is readily determined, that a probe can be designed using the information acquired, which will hybridize with a nucleic acid molecule encoding the protein, and that established methodology, which was both routine and conventional at the time of the invention, is used to isolate the nucleic acid molecule encoding the protein by virtue of the selective hybridization of the probe to this nucleic acid molecule. Such technical procedures are taught in the prior art references of record, which have been employed by Applicant in the instant disclosure to enable the skilled artisan to make and use the claimed invention.

New Ground of Claim Objection

12. Claim 20 is objected to because it recites, "that bind to anti-CV2 antibodies". The claim should read, "that binds to anti-CV2 antibodies". Appropriate correction is required.

Conclusion

13. Claim 4 is allowed; no other claims are allowed.

14. Applicant's amendment necessitated the new ground(s) of objection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on (571) 272-0787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1642

slr
April 1, 2005

LARRY R. HELMS, PH.D
PRIMARY EXAMINER